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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,010	02/09/2004	Bruno Vitt	608.0017USX	2517

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EXAMINER

MARKHAM, WESLEY D

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

LD

Office Action Summary	Application No.	Applicant(s)	
	10/775,010	VITT ET AL.	
	Examiner	Art Unit	
	Wesley D Markham	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-21 and 31-49 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32-35, 38-44 and 46-49 is/are allowed.
- 6) ☒ Claim(s) 18-21 is/are rejected.
- 7) ☒ Claim(s) 31, 36, 37 and 45 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2 total</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Response to Amendment

1. Acknowledgement is made of the preliminary amendment filed by the applicant on 2/9/2004, in which the specification of the instant application was amended to update the continuity data, Claims 1 – 17 and 22 – 30 were canceled, Claims 18 – 21 were amended, and Claims 31 – 49 were added. **Claims 18 – 21 and 31 – 49** are currently pending in U.S. Application Serial No. 10/775,010 (which is a continuation of 10/168,491, now USPN 6,720,081), and an Office Action on the merits follows.

Priority

2. According to the "Cross-Reference to Related Applications" section of the specification, the instant application claims priority to German Patent Application DE 199 62 144.6, filed on 12/22/1999. However, applicant has not complied with the requirements of 37 CFR 1.63(c), since the oath, declaration or application data sheet does not acknowledge the filing of any foreign application. A new oath, declaration or application data sheet is required in the body of which the present application should be identified by application number and filing date.
3. According to the "Cross-Reference to Related Applications" section of the specification, the instant application (which is a continuation of 10/168,491) claims to be a CIP of 09/514,437 and PCT/EP00/12878. However, applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35

U.S.C. 120 as follows: The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application); the disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994). Regarding Claims 18 – 21 and 31 – 49 of the instant application, prior applications 09/514,437 and PCT/EP00/12878 do not adequately disclose / support the following claimed subject matter: (1) the specific combination of five (or more) layers in which each layer has the range of refractive index and thickness values recited in the claims (Claims 18 – 21 and 31 – 43), and (2) the specific combination of five (or more) layers in which the first through fifth layers combine to transmit less than 8% of UV light while transmitting greater than 90% of visible light (Claims 44 – 49). Therefore, the effective filing date of the instant application is 6/21/2002 (i.e., the effective filing date of 10/168,491).

Information Disclosure Statement

4. The IDSs (2) filed by the applicant on 2/9/2004 and 5/5/2004 are acknowledged by the examiner.
5. Regarding the 2/9/2004 IDS: The examiner has located and considered the U.S. and Foreign patent documents as indicated on the attached copies of the PTO-1449 forms. However, at the time of examination, the examiner could not locate the non-

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patent literature documents, and the applicant provided no copies. The examiner will attempt to locate the aforementioned non-patent literature (NPL) documents.

However, if the applicant wishes to insure that such documents are considered, the applicant is suggested to submit copies of the NPL documents, along with a supplementary IDS, in response to this Office action.

6. Regarding the 5/5/2004 IDS: The European Search Report listed on the IDS has not been considered because it is in the German language and does not contain a concise explanation of relevance.

Drawings

7. The drawings (17 sheets) filed on 2/9/2004 are objected to because (1) the labels and legends in each figure are hand-written and unclear (i.e., the drawings do not comply with 37 CFR 1.84(I), which requires that every line, number, and letter be sufficiently dense and dark, and uniformly thick and well-defined), and (2) at the bottom right corner of Figure 11(c), there is a lead line without any corresponding reference number / character. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining

figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

8. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: "Method for Making a UV-Reflecting Interference Layer System".
9. The lengthy specification (21 pages, exclusive of the claims) has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
10. The disclosure is objected to because of the following informalities: On page 11, lines 23 – 24, the phrase, "The coatings on both sides each consist of five individual layers and possess the structure: glass + M* + T + M + S" is confusing because it appears that the coating(s) should contain five layers, but only four layers (M*, T, M, and S) are listed. Appropriate correction is required.

Claim Objections

11. Claims 31, 36, 37, and 45 are objected to because of the following informalities:

- Claim 31: The word “of” appears to be missing between the words “side” and “the” in line 4 of the claim, and the word “is” appears to be missing between the words “refraction” and “between” in line 24 of the claim. In other words, Claim 31 contains several typographical errors.
- Claim 36: The word “layers” appears to be missing between the words, “refraction” and “comprises” because it is the layers themselves (not the index of refraction(s)) that comprise TiO_2 and/or SiO_2 .
- Claim 37: The word “of” appears to be missing between the words “side” and “the” in line 3 of the claim.
- Claim 45: It appears that the word “of” in lines 4 and 5 of the claim should read “is” in order for the claim limitations to be clear and grammatically correct.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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13. Claims 18 – 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
14. Independent **Claim 18** (from which **Claims 20 and 21** depend) and independent **Claim 19** recite the limitation "the interference layer system" in the last line of the second paragraph of each of the claims. There is insufficient antecedent basis for this limitation in the claims. Specifically, Claims 18 and 19 do not previously recite or refer to an "interference layer system". Therefore, it is unclear what "the interference layer system" in Claims 18 and 19 refers to, and the scope of the claims is vague and indefinite. For the purposes of examination only, the examiner has interpreted "the interference layer system" to be the five (or more) individual layers deposited on the transparent substrate having the specific thickness and refractive index values claimed by the applicant.

Allowable Subject Matter

15. Claims 18 – 21 have been rejected under 35 U.S.C. 112, second paragraph, for the reasons set forth above in paragraph 14, but no art has been applied against the claims. Claims 31, 36, 37, and 45 are objected to for various informalities, but no art has been applied against the claims. Claims 32 – 35, 38 – 44, and 46 – 49 are allowed.
16. The following is a statement of reasons for the indication of allowable subject matter:
- The prior art of record does not teach or reasonably suggest (1) depositing the five

(or more) layers claimed by the applicant on a transparent substrate to produce an interference layer system, wherein the first and third layers have an intermediate index of refraction (1.6 to 1.8), the second and fourth layers have a high index of refraction (≥ 1.9), and the fifth layer has a low index of refraction (≤ 1.6), and wherein each of the five layers has a thickness within the range claimed by the applicant (Claims 18 – 21 and 31 – 43), or (2) depositing the five (or more) layers claimed by the applicant on a transparent substrate to produce a UV-reflective interference layer system, wherein the first and third layers have an intermediate index of refraction, the second and fourth layers have a high index of refraction, and the fifth layer has a low index of refraction, and wherein the first through fifth layers combine to transmit less than 8% of UV light while transmitting greater than 90% of visible light (Claims 44 – 49).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Thelen (USPN 3,829,197), Hashimoto et al. (USPN 5,532,871), Sannohe et al. (USPN 5,453,859), Iida et al. (USPN 5,073,451), Matsuda et al. (USPN 5,822,124), Ohta et al. (USPN 6,104,534), Sumita (USPN 3,858,965), Takazawa (USPN 4,313,647), Jones et al. (USPN 4,850,660), Anderson et al. (US 2001/0031365 A1), Suzuki et al. (JP 07-244202 A), Oshikawa et al. (JP 07-244204 A), and Suzuki (JP 2000-347002 A) all teach various multilayer (e.g., 5 layer) antireflective and/or UV reflective coatings on transparent substrates, the layers having high, intermediate,

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and/or low indices of refraction. However, none of the aforementioned references, alone or in combination, teaches or suggests the applicant's claimed method (e.g., the specifically claimed combination of layers having specific thickness and refractive index values, or providing the claimed low UV light transmittance ($< 8\%$) and high visible light transmittance ($> 90\%$) with the claimed combination of layers).

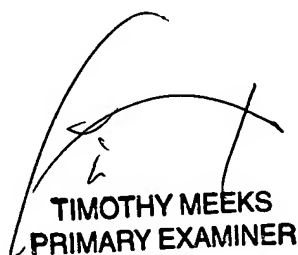
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D Markham whose telephone number is (571) 272-1422. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WDM

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TIMOTHY MEEKS
PRIMARY EXAMINER

Wesley D Markham
Examiner
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